

Message Text

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ACTION ARA-20

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TO SECSTATE WASHDC 8179

INFO AMEMBASSY BRASILIA

AMEMBASSY OTTAWA

IAEA VIENNA 88

DIA WASHDC

S E C R E T SECTION 1 OF 2 BUENOS AIRES 7083

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TAGS: PARM, AR, TECH

SUBJECT: ARGENTINE NUCLEAR PROGRAM

REF: A. BA A-167 (1973); B.BA-3971; C. STATE 135984; D. IAEA VIENNA 8015

1. SUMMARY. ARGENTINA HAS EMBARKED DOWN A LONG ROAD WHICH COULD, ULTIMATELY, LEAD TO A CAPABILITY TO FABRICATE NUCLEAR EXPLOSIVES. THE ARGENTINE NUCLEAR PROGRAM IS NOT DESIGNED TO MINIMIZE COSTS, BUT RATHER TO MAXIMIZE LOCAL PARTICIPATION AND MINIMIZE THE NEED FOR IMPORTED FUEL. ACHIEVING THE DEGREE OF INDEPENDENCE CURRENTLY ENVISIONED WILL COME ONLY AT A GREAT COST TO THE ECONOMY OF THE COUNTRY. THE U. S. SHOULD, WE BELIVE, QUIETLY POINT OUT TO ARGENTINA THAT ADHERENCE TO NPT WOULD LEAD TO EASIER ACCESS TO IMPORTANT NUCLEAR TECHNOLOGY. IT SHOULD ALSO REMAIN ALERT FOR INCREASED TRADE OPPORTUNITIES WHICH COULD FOLLOW A MAJOR CHANGE IN NUCLEAR POLICY HERE. END SUMMARY.

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2. TECHNICAL AND MATERIAL CAPABILITY. ARGENTINA, OF

COURSE, HAS A VERY LONG WAY TO GO TO ACQUIRE A CAPABILITY TO FABRICATE A NUCLEAR EXPLOSIVE. ON THE MOST LIKELY ROUTE, PLUTONIUM, IT NOW POSSESSES ONE OPERATING NATURAL URANIUM POWER REACTOR AND HAS CONTRACTED FOR A SECOND. IT HAS URANIUM RESOURCES APPARENTLY ADEQUATE TO PROVIDE THE FUEL FOR THESE REACTORS. CNEA HAS DEVOTED CONSIDERABLE ATTENTION TO NUCLEAR METALLURGY AND FUEL FABRICATION FOR MANY YEARS, SO THAT THE TECHNOLOGY IS WELL UNDERSTOOD. THE CAPABILITY TO FABRICATE POWER REACTOR FUEL ON A PRODUCTION BASIS DOES NOT YET EXIST HERE, BUT THIS IS PLANNED TO BE ACQUIRED BEFORE THE END OF THE 1970'S.

2A. TO REPROCESS THE FUEL, ARGENTINA ALSO HAS SOME EXPERTISE FROM A SMALL PILOT PLANT WHICH PREVIOUSLY OPERATED. WE UNDERSTAND THAT A SOMEWHAT LARGER PUREX-TYPE PLANT TO REPROCESS "RESEARCH REACTOR FUEL" IS BEING BUILT, BUT WE LACK DETAILED INFORMATION ON THIS PROJECT. IN ANY EVENT, THE CAPABILITY TO REPROCESS POWER REACTOR FUEL REMAINS AT THIS JUNCTURE AS A STATED OBJECTIVE, BUT IT WOULD APPEAR TO BE ALMOST IMPOSSIBLE TO ACHIEVE WITHOUT CONSIDERABLE INPUT FROM AN EXPERIENCED FOREIGN ORGANIZATION.

3. FIRST-HAND EXPERIENCE IN WORKING WITH PLUTONIUM HERE ALSO DOES NOT CURRENTLY EXIST. AGAIN, THERE ARE PLANS RELATED TO A FAST CRITICAL EXPERIMENT, BUT SO FAR ONLY PLANS, AND WHAT EXPERTISE CNEA PERSONNEL MAY HAVE COMES FROM THEIR EXPERIENCE ABROAD.

4. IN POWER REACTOR DESIGN AND FABRICATION CAPABILITY, ARGENTINA IS COMMITTED TO INCREASING ITS NATIONAL CAPABILITY WITH EACH SUCCEEDING REACTOR, AND PROBABLY WILL DO SO, ALBEIT AT THE EXPENSE OF ECONOMICS AND PERHAPS EVEN OF PLANT RELIABILITY. THE ROAD WILL NOT BE EASY, AND WILL REQUIRE DEVELOPMENT OF A SOPHISTICATION IN ENGINEERING, MANUFACTURING, QUALITY CONTROL, AND DISCIPLINE WHICH IS CURRENTLY NOT TOO COMMON IN THE INDUSTRY OF THE COUNTRY, OR VERY WELL UNDERSTOOD BY MANY ARGENTINE INDUSTRIAL LEADERS.

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5. THERE EXISTS, FOR INSTANCE, NO CAPABILITY HERE TO FABRICATE THE ZIRCALOY PRESSURE TUBES FOR THE CANDU-TYPE REACTOR, NOR THE ZIRCALOY CLADDING. THIS WILL SOMEHOW HAVE TO BE ACQUIRED. REACTOR INSTRUMENTATION AND CONTROL TECHNOLOGY (WHICH WE UNDERSTAND CNEA WILL TRY TO SUPPLY EVEN FOR RIO TERCERO) WILL HAVE TO BE REDEVELOPED INDEPENDENTLY HERE UNLESS SOMEHOW THE NECESSARY EXPERTISE CAN BE ACQUIRED FROM THOSE ABROAD WHO POSSESS IT.

6. CONVENTIONAL EQUIPMENT - PUMPS, MOTORS, ETC. AND OST PIPING CAN, OF COURSE, GENERALLY BE MADE HERE. WE SUSPECT THAT, BEFORE TOO LONG, THE REACTOR CALANDRIA COULD BE BUILT HERE. AND OF COURSE, MOST OF THE CIVIL WORKS CAN BE DESIGNED AND ERECTED BY ARGENTINES.

7. THE HEAVY WATER FOR CANDU-TYPE REACTORS REMAINS AS A CRITICAL IMPORT ITEM UNTIL SOMEHOW ARGENTINA BUILDS ITS OWN HEAVY WATER PLANT. THERE IS A GROUP IN CNEA CHARGED WITH THIS RESPONSIBILITY, AND WE BELIEVE THAT EFFORTS WILL BE MADE TO ACHIEVE THIS CAPABILITY IF SOMEHOW FUNDS CAN BE MADE AVAILABLE AND IF SOMEHOW THE "KNOW HOW" CAN BE ACQUIRED. FROM ABROAD.

8. AS OF TODAY, THE TRAINED PERSONNEL AT CNEA ARE NOT WELL ORGANIZED FOR ANY KIND OF MAJOR NUCLEAR DEVELOPMENTS. THE ORGANIZATION HAS BECOME QUITE POLITICIZED IN THE PAST YEAR, AND MOST OF THE HIGHLY COMPETENT LEADERS OF DIVISIONS HAVE BEEN MOVED FROM THEIR POSITIONS OF RESPONSIBILITY. AS IS TRUE ELSEWHERE IN THE COUNTRY, HARD WORK AT ACHIEVING SOME DESIRABLE OBJECTIVE FOR THE ORGANIZATION IS GENERALLY NOT HIGH ON THE LIST OF INDIVIDUAL PRIORITIES.

9. ECONOMIC COST. THE CURRENT ARGENTINE NUCLEAR POLICY (FORGETTING WHETHER THERE HAS BEEN OR WILL BE A DECISION TO BUILD A NUCLEAR EXPLOSIVE) IS NOT ORIENTED TO MINIMIZE POWER COST. THE CANDU-TYPE PLANT WILL PRODUCE ELECTRICITY AT PERHAPS 10 PER CENT HIGHER COST THAN AN LWR. CONSTRUCTION OF A FUEL FABRICATION PLANT HERE MAY MAKE ECONOMIC SENSE, BUT THE HEAVY WATER PLANT PROBABLY WOULD NOT UNTIL THE 1980'S, AND THE FUEL REPROCESSING PLANT WILL BE A VERY LARGE AND PROBABLY COMPLETELY UNNECESSARY EXPENDITURE

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IF ARGENTINA WERE LOOKING AT ALL BEYOND ITS OWN BORDERS. THE REPROCESSING PLANT CAN PROBABLY ONLY BE JUSTIFIED BY IGNORING THE COST AND INSISTING ON THE NEED FOR THE ADDITIONAL PLUTONIUM FUEL WHICH IT WILL MAKE AVAILABLE FOR RECYCLE (OR, OF COURSE, IF THERE ARE SOME NUCLEAR EXPLOSIVE IDEAS LURKING IN THE BACKS OF HEADS). THE ARGENTINE THINKING ON RECYCLING OF PLUTONIUM IS, OF COURSE, NOT UNLIKE THAT WHICH PROMPTED OUR OWN DECLARATION OF "PROJECT INDEPENDENCE". WE DOUBT WHETHER ARGENTINA WILL FIND IT POSSIBLE TO COME UP WITH THE FINANCIAL RESOURCES FROM WITHIN THE COUNTRY TO BUILD THE HEAVY WATER PLANT SOON, OR THE REPROCESSING PLANT IN THE 1980'S, WITHOUT SEVERELY STRAINING THE COUNTRY'S ECONOMY. THE NUCLEAR POWER PLANTS THEMSELVES WILL BE AN

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INCREASING, ALBEIT NOT OVERWHELMING, ECONOMIC BURDEN AS WELL, AS FOREIGN FINANCING DWINDLES AND CONTRUCTION TIME INCREASES WITH AN INCREASING PERCENTAGE OF NATIONAL-SUPPLIED EQUIPMENT.

10. POLITICAL INTENTIONS. THE MOTIVATIONS FOR THE CURRENT ARGENTINE NUCLEAR PATH DIFFER WITHIN THE GOVERNMENT. CNEA AND THE ECONOMY MINISTRY FAVOR THE NATURAL URANIUM LINE FOR ITS DEGREE OF "INDEPENDENCE" AND PROMISE FOR INCREASING PARTICIPATION OF NATIONAL INDUSTRY. WE SURMOSE THAT AT LEAST SOME OF THE ARMED FORCES (WHICH IN EARLIER GOVERNMENTS DID REALLY MAKE THE FINAL DECISIONS WHICH STARTED ARGENTINA DOWN THIS ROAD) WOULD WANT VERY MUCH TO KEEP ALIVE A FUTURE OPTION TO BUILD NUCLEAR EXPLOSIVES AS A DETERRENT TO BRAZIL, WHICH POSSESSES NUMERICALLY SUPERIOR MILITARY MANPOWER. IT IS LIKELY THAT THERE ARE ALSO INDIVIDUALS WHO HAVE ILLICIT PERSONAL STAKES IN THESE DECISIONS ONE WAY OR ANOTHER - THIS IS AN UNFORTUNATE FACT OF LIFE IN THIS COUNTRY.

11. INTERNATIONAL COMMITMENTS. ARGENTINA DOES NOT CARE TOO MUCH FOR SAFEGUARDS (AS MIGHT BE DEDUCED FROM THE ABOVE)

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BUT HAS ACCEPTED THEM WHEN THE US HAS INSISTED. IT HAS A "VOLUNTARY" AGREEMENT WITH IAEA TO SAFEGUARD ATUCHA I UNTIL 1978, AND ATUCHA COULD BE FURTHER SAFEGUARDED BEYOND THAT DATE IF (A) THE US-SUPPLIED HEAVY WATER REMAINS IN THE PRIMARY SYSTEM, OR (B) THE GERMANS WERE TO SUCCEED IN PRESSURING ARGENTINA INTO SOME SUCH AGREEMENT.

12. ARGENTINA HAS NOT SIGNED NPT. IT HAS SIGNED BUT NOT RATIFIED THE LANFZ TREATY. IT HAS A BILATERAL NUCLEAR COOPERATION AGREEMENT WITH INDIA WHICH MAKES NO MENTION OF SAFEGUARDS.

13. RECOMMENDATIONS. US POLICY TOWARD ARGENTINA IN THE NUCLEAR FIELD SHOULD, OF COURSE, REMAIN FULLY COGNIZANT OF THE ABOVE AND OF NEW FACTS WHICH MAY BE LEARNED FROM TIME TO TIME. ASSUMING THAT, FOLLOWING THE SEPTEMBER 13 IAEA BOG DECISION, ARGENTINA ACQUIESCES AND COMPLETES NEGOTIATIONS ON THE IAEA'S TERMS FOR A SAFEGUARDS AGREEMENT ON RIO TERCERO AND OTHER CANADIAN NUCLEAR TECHNOLOGY, THERE IS NO IMMEDIATE PROBLEM. FOR THE LONG-RANGE PROBLEM, WE SHOULD QUIETLY POINT OUT TO ARGENTINA, EITHER DIRECTLY OR THROUGH SUCH OTHER GOVERNMENTS AS MAY BE ABLE TO EXERT POSITIVE INFLUENCE, THE ADVANTAGES TO ARGENTINA IN TERMS OF EASIER ACCESS TO IMPORTANT FUEL CYCLE AND HEAVY WATER PRODUCTION TECHNOLOGY THAT ADHERENCE TO NPT WOULD BRING. WE SHOULD ALSO CONTINUE TO BE ALERT FOR SIGNS OF INTEREST IN LWR TECHNOLOGY AND BE PREPARED TO ASSIST US NUCLEAR MANUFACTURERS TO THE EXTENT FEASIBLE IN ANY TRULY OPEN NUCLEAR POWER COMPETITIONS WHICH ARGENTINA MAY CONDUCT. SHOULD THE ARGENTINA-IAEA NEGOTIATIONS NOT SUCCEED, AND THE RIO TERCERO CONTRACT THEREBY FALL THROUGH, WE MUST, OF COURSE, VIEW THE NEW SITUATION WHICH DEVELOPS AND DECIDE ON A PROPER COURSE OF ACTION.

14. S/P TEAM MAY WISH TO USE THIS ANALYSIS IN PREPARING FOR PLANNED CONSULTATIONS WITH GOA COUNTERPARTS.
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